

AT Series Inductive Proximity Sensors



M30 (30mm) Metal – DC

- Standard and extended distance models available
- 2-wire and 3-wire models
- Axial cable or M12 quick-disconnect models
- LED status indicators are visible 360° around the cylinder
- Complete overload protection
- IP67 rated
- Lifetime warranty



AT Series M30 DC Inductive Proximity Selection Chart

| Part Number | Price | Sensing Range | Mounting | Output State | Logic | Connection | Wiring | Dimensions |
|---------------------------|---------|-----------------|-----------|--------------|-------------|-------------------------|-----------|------------|
| Standard Distance | | | | | | | | |
| AT1-AN-1A | \$24.00 | 10mm [0.394 in] | Flush | N.O. | NPN | 2m [6.5 ft] axial cable | Diagram 1 | Figure 1 |
| AT1-AP-1A | \$24.00 | | | | PNP | 2m [6.5 ft] axial cable | Diagram 1 | Figure 1 |
| AT1-A0-1A | \$39.00 | | | | Sink/source | 2m [6.5 ft] axial cable | Diagram 2 | Figure 1 |
| AT1-AN-1H | \$25.00 | | | | NPN | M12 [12mm] connector | Diagram 1 | Figure 2 |
| AT1-AP-1H | \$25.00 | | | | PNP | M12 [12mm] connector | Diagram 1 | Figure 2 |
| AT1-A0-1H | \$44.50 | | | | Sink/source | M12 [12mm] connector | Diagram 2 | Figure 2 |
| AT1-AN-2A | \$24.00 | 15mm [0.591 in] | Non-flush | N.O. | NPN | 2m [6.5 ft] axial cable | Diagram 1 | Figure 1 |
| AT1-AP-2A | \$24.00 | | | | PNP | 2m [6.5 ft] axial cable | Diagram 1 | Figure 1 |
| AT1-A0-2A | \$39.00 | | | | Sink/source | 2m [6.5 ft] axial cable | Diagram 2 | Figure 1 |
| AT1-AN-2H | \$25.00 | | | | NPN | M12 [12mm] connector | Diagram 1 | Figure 2 |
| AT1-AP-2H | \$25.00 | | | | PNP | M12 [12mm] connector | Diagram 1 | Figure 2 |
| AT1-A0-2H | \$44.50 | | | | Sink/source | M12 [12mm] connector | Diagram 2 | Figure 2 |
| Extended Distance | | | | | | | | |
| AT1-AN-3A | \$30.00 | 15mm [0.591 in] | Flush | N.O. | NPN | 2m [6.5 ft] axial cable | Diagram 1 | Figure 1 |
| AT1-AP-3A | \$30.50 | | | | PNP | 2m [6.5 ft] axial cable | Diagram 1 | Figure 1 |
| AT1-A0-3A | \$43.50 | | | | Sink/source | 2m [6.5 ft] axial cable | Diagram 2 | Figure 1 |
| AT1-AN-3H | \$30.50 | | | | NPN | M12 [12mm] connector | Diagram 1 | Figure 2 |
| AT1-AP-3H | \$30.50 | | | | PNP | M12 [12mm] connector | Diagram 1 | Figure 2 |
| AT1-A0-3H | \$43.50 | | | | Sink/source | M12 [12mm] connector | Diagram 2 | Figure 2 |
| AT1-AN-4A | \$30.50 | 20mm [0.787 in] | Non-flush | N.O. | NPN | 2m [6.5 ft] axial cable | Diagram 1 | Figure 1 |
| AT1-AP-4A | \$30.50 | | | | PNP | 2m [6.5 ft] axial cable | Diagram 1 | Figure 1 |
| AT1-A0-4A | \$43.50 | | | | Sink/source | 2m [6.5 ft] axial cable | Diagram 2 | Figure 1 |
| AT1-AN-4H | \$30.50 | | | | NPN | M12 [12mm] connector | Diagram 1 | Figure 2 |
| AT1-AP-4H | \$30.50 | | | | PNP | M12 [12mm] connector | Diagram 1 | Figure 2 |
| AT1-A0-4H | \$43.50 | | | | Sink/source | M12 [12mm] connector | Diagram 2 | Figure 2 |

Dimensions

mm[inches]

Figure 1

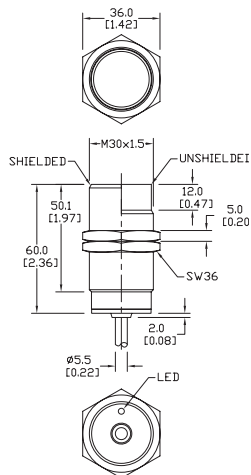
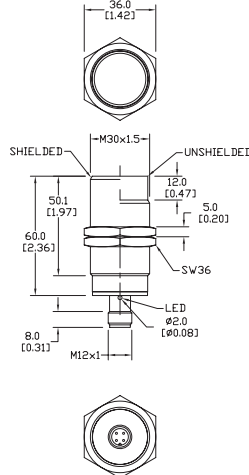


Figure 2



AT Series Inductive Proximity Sensors

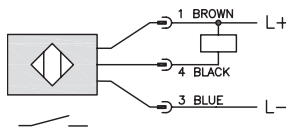
AT Series M30 DC Inductive Proximity Specifications

| Mounting Type | Standard Distance Models | | Extended Distance Models | |
|-------------------------------------|--|-----------------|--|-----------------|
| | Flush | Non-flush | Flush | Non-flush |
| Nominal Sensing Distance | 10mm [0.394 in] | 15mm [0.591 in] | 15mm [0.591 in] | 20mm [0.787 in] |
| Operating Distance | NA | | | |
| Material Correction Factors | See the Material influence table | | | |
| Output Type | Three wire: NPN or PNP/N.O. (normally open) / Two wire: sink/source, N.O. only | | | |
| Operating Voltage | 10 to 30 VDC | | | |
| No-load Supply Current | ≤ 20 mA | | | |
| Operating (Load) Current | 3 wire: ≤ 400mA / 2-wire: 3-100mA | | 2-wire and 3-wire:≤ 400mA | |
| Off-state (Leakage) Current | 3-wire:≤ 10μA / 2-wire: ≤ 0.8mA max. | | 3-wire ≤ 8μA / 2-wire: ≤ 0.8mA max. | |
| Voltage Drop | 3-wire: ≤ 1 volt max. / 2-wire: ≤2.8V≤10% | | 3-wire: ≤1 volt max. / 2-wire: ≤ 2.8 V | |
| Switching Frequency | 3-wire: 200Hz / 2-wire: 150Hz | | 2-and 3-wire:150Hz | |
| Differential Travel | 2 to 10% | | 2 to 15% | |
| Repeat Accuracy | 3-wire: 2% / 2-wire: 5% | | 2-wire and 3-wire: 5% | |
| Ripple | ≤10% | | | |
| Time Delay Before Availability (tv) | 3-wire: 100ms / 2-wire: 50ms | | 3-wire:100ms / 2-wire: 50ms | |
| Reverse Polarity Protection | Yes | | | |
| Short-Circuit Protection | Yes [switch auto-resets after overload is removed] | | | |
| Operating Temperature | -25 to + 70°C [-13 to 158°F]; drift: 10% Sr | | | |
| Protection Degree (DIN 40050) | IEC IP67 | | | |
| Indication/Switch Status | Yellow [N.O. output energized] | | | |
| Housing Material | Nickel-plated brass | | | |
| Sensing Face Material | Polybutylene Terephthalate [PBT] | | | |
| Shock/Vibration | See Proximity Sensor Terminology | | | |
| Tightening Torque | 50 Nm [36.88 lbs-ft] | | | |
| Weight | A type [w/ cable]: 180g [6.35 oz] H type: 110g [3.88 oz] | | | |
| Connection | 2 meter [6.5 ft] axial cable or M12 connector | | | |
| Agency Approvals | NA | | | |

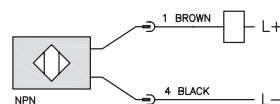
To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page.

Wiring diagrams

NPN Output



Sink/Source Output



Wiring diagram when sensor is wired in sinking mode used with a sourcing module.

Diagram 1

PNP Output

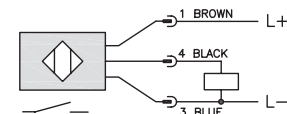
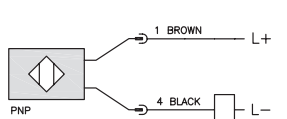


Diagram 2

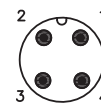
Sink/Source Output



Wiring diagram when sensor is wired in sourcing mode used with a sinking module.

Connector

M12 connector



Note: Negative (-) lead is Black on M12 quick-disconnect cables and Blue on axial cables.

Accessories for 30mm Sensors

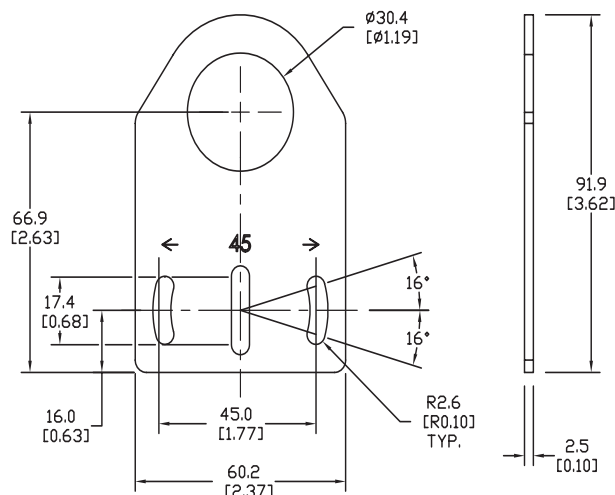
Axial Mounting Bracket

Mounting bracket, axial, zinc-plated steel. For use with 30mm sensors. Has two mounting holes (use 5mm screws) and allows the rotation of an optical axis for right-beam-angle-adaptor sensors. Hexagonal nuts not included.

| Accessories for 30mm Sensors | | | |
|------------------------------|--------|--|---------------|
| Part Number | Price | Description | Weight lb [g] |
| ST30A | \$2.25 | Micro Detectors mounting bracket, axial, zinc plated steel. For use with 30mm sensors. | 0.18 [81.7] |

Dimensions

mm [inches]



ST30A

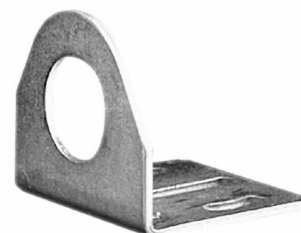
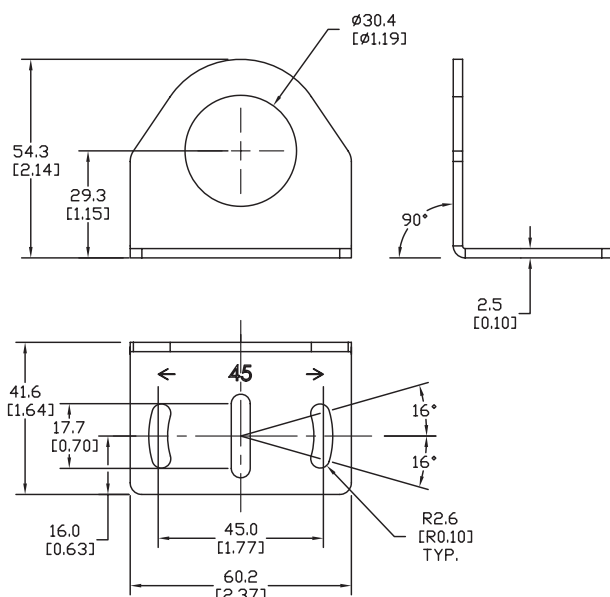
Right-angle Mounting Bracket

Mounting bracket, right-angle, zinc-plated steel. For use with 30mm sensors. Has two mounting holes (use 5mm screws) and allows the rotation of an optical axis for axial sensors. Hexagonal nuts not included.

| Accessories for 30mm Sensors | | | |
|------------------------------|--------|--|---------------|
| Part Number | Price | Description | Weight lb [g] |
| ST30C | \$2.25 | Micro Detectors mounting bracket, right-angle, zinc plated steel. For use with 30mm sensors. | 0.18 [81.7] |

Dimensions

mm [inches]



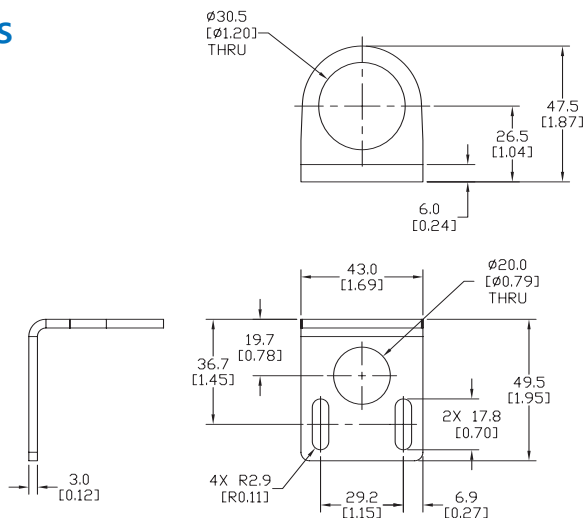
ST30C

Right-angle Mounting Bracket

Mounting bracket, right-angle, 304 stainless steel. For use with 30mm sensors.

| Accessories for FW Series Sensors | | | |
|-----------------------------------|--------|---|------------------|
| Part Number | Price | Description | Weight lb [g] |
| <u>ST30C6W</u> | \$5.50 | AutomationDirect mounting bracket, right-angle, 304 stainless steel. For use with 30mm sensors. | 0.15 (68.0) |

mm [inches]



ST30C6W

Mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, 12mm rod mount. For use with 30mm sensors. Available in all 304 stainless steel or with an aluminum head with a 304 stainless steel mounting plate.

| Accessories for 30mm Sensors | | | | | | |
|--------------------------------|---------|--|---------------------|---------------------|----------------------------|---------------|
| Part Number | Price | Description | Mounting Head | Mounting Plate | Drawing Link | Weight lb [g] |
| <u>OPT2118</u> | \$11.50 | Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, aluminum, 12mm rod mount. For use with 30mm sensors. | Aluminum | 304 Stainless steel | <u>PDF</u> | 0.18 [81.7] |
| <u>OPT2119</u> | \$21.00 | Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, 304 stainless steel, 12mm rod mount. For use with 30mm sensors. | 304 Stainless Steel | 304 Stainless steel | <u>PDF</u> | 0.18 [81.7] |

Note: 304 Stainless steel mounting rods sold separately: [OPT2109](#) (200mm [7.87 in] length), [OPT2110](#) (300mm [11.81 in] length), and [OPT2111](#) (500mm [19.69 in] length).



OPT2118, OPT2119

Mounting Rods and Brackets

Mounting Rods

304 Stainless steel rods for mounting swivel brackets [OPT2112](#) - [OPT2127](#). Available in three lengths: 200mm, 300mm, and 500mm. 12mm diameter.

| Mounting Rods for OPT2112-2127 Swivel Mounting Brackets | | | | |
|---|---------|---|---------------------|------------------|
| Part Number | Price | Description | Drawing Link | Weight lb (g) |
| OPT2109 | \$13.00 | Wenglor mounting rod, 12mm diameter, 200mm length, 304 stainless steel. | PDF | 0.41 [185.97] |
| OPT2110 | \$16.00 | Wenglor mounting rod, 12mm diameter, 300mm length, 304 stainless steel. | PDF | 0.60 [272.16] |
| OPT2111 | \$21.00 | Wenglor mounting rod, 12mm diameter, 500mm length, 304 stainless steel. | PDF | 0.98 [444.52] |



Right-angle Mounting Bracket

Mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods [OPT2109](#), [OPT2110](#) & [OPT2111](#).

| Right-angle Mounting Brackets for 12mm Sensors | | | | |
|--|---------|---|---------------------|----------------|
| Part Number | Price | Description | Drawing Link | Weight lb [g] |
| OPT2108 | \$16.00 | Wenglor mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111. | PDF | 0.07 [31.8] |

